Patent
Attorney's Docket No. 000515-237

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of	)	
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Jeff THORNTON et al.	)	Group Art Unit: Unassigned
	)	
Application No.: Unassigned	)	Examiner: Unassigned
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Filed: Herewith	)	
	)	
For: A RECOVERY SYSTEM	)	

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Prior to examination of the above-captioned patent application, kindly enter the following amendment

IN THE CLAIMS:

Please cancel claims 1-20 without prejudice to or disclaimer of the subject matter contained therein.

Please add the following new claims.

21. A method for obtaining a catalytically active mixture based on stable nitroxyl radicals, the method comprising selectively separating stable hydrophobic nitroxyl radicals from a reaction mixture by hydrophobic interaction to obtain a catalytically active mixture of stable nitroxyl radicals, wherein the stable nitroxyl radicals are hydrophobic.

22. The method of Claim 21, wherein the reaction mixture is a liquid solution.

23. The method of Claim 21, further comprising selectively adsorbing the stable hydrophobic nitroxyl radicals onto a hydrophobic solid adsorbent.

24. The method of Claim 23, wherein the adsorbent comprises a hydrophobic synthetic resin.

25. The method of Claim 24, wherein the hydrophobic synthetic resin is XAD-2, XAD-4, XAD-8, XAD-11, XAD-16, XAD-30, or XAD-1180.

26. The method of Claim 23, further comprising eluting the stable hydrophobic nitroxyl radicals with a solvent, wherein the solvent comprises water, an organic solvent, or a mixture thereof.

27. The method of Claim 26, wherein the organic solvent comprises ethyl alcohol, acetone, or THF, or a mixture thereof.

28. The method of Claim 26, wherein the organic solvent is miscible with water.

29. The method of Claim 28, wherein the organic solvent exhibits a high vapour pressure.

30. The method of Claim 26, wherein the organic solvent comprises 1-pentanol.

31. The method of Claim 21, further comprising selectively absorbing the stable hydrophobic nitroxyl radicals onto a silica gel.

32. The method of Claim 31, further comprising eluting the stable hydrophobic nitroxyl radicals with a solvent, wherein the solvent comprises water, an organic solvent, or a mixture thereof.

33. The method of Claim 32, wherein the organic solvent comprises ethyl alcohol, acetone, THF, or a mixture thereof.

34. The method of Claim 32, wherein the organic solvent is miscible with water.

35. The method of Claim 34, wherein the organic solvent exhibits a high vapour pressure.

36. The method of Claim 32, wherein the organic solvent comprises 1-pentanol.

37. The method of Claim 21, wherein the hydrophobic interaction takes place in a precipitation step.

38. The method of Claim 21, further comprising:

dissolving β-cyclodextrin in the reaction mixture, and

selectively forming complexes from the β-cyclodextrin with the stable hydrophobic nitroxyl radicals, thereby obtaining a precipitate.

39. The method of Claim 21, wherein the hydrophobic interaction takes place in a liquid-liquid extraction, the method further comprising:

adding an organic solvent to the reaction mixture, and

transferring the stable hydrophobic nitroxyl radicals into the organic solvent.

40. The method of Claim 39, wherein the organic solvent comprises a C_6 or higher alcohol.

41. The method of Claim 40, wherein the organic solvent comprises 1-octanol.

42. The method of Claim 41, further comprising selectively oxidizing primary alcohols.

43. A method for continuously recirculating stable hydrophobic nitroxyl radicals, comprising performing the method of Claim 21 in a continuous manner.

44. The method of Claim 21, wherein the stable hydrophobic nitroxyl radical is 2,2,6,6,-tetramethylpiperidin-1-oxyl (TEMPO).

45. The method of Claim 21, wherein the reaction mixture comprises an aqueous solution or an aqueous suspension.

REMARKS

Entry of the foregoing, reexamination and reconsideration of the subject application are respectfully requested.

In the event that there are any questions concerning this amendment or the application in general, the Examiner is respectfully requested to telephone the undersigned so that prosecution of the application may be expedited.

Respectfully submitted,

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